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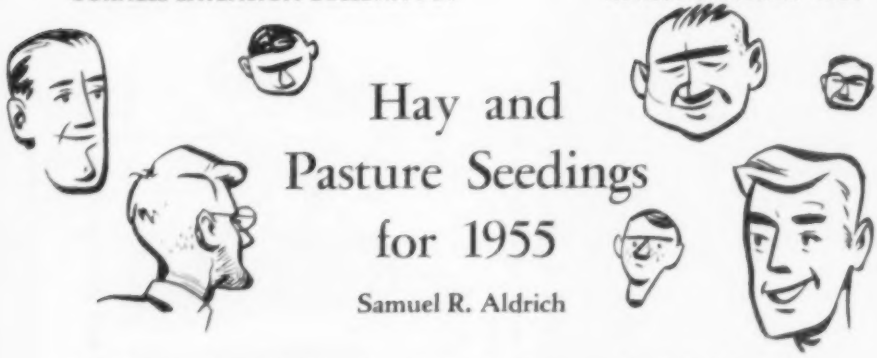


Hay and Pasture Seedings for 1955

Samuel R. Aldrich

ON many farms, hay and pasture are the most important crops. To choose the right varieties and mixtures and to make successful seedings, follow these steps:

1. Get the soil ready for the crop.

Be sure that your soil is limed to the correct pH for the legume that you want to grow. More seedings fail or produce only a fair crop because of acid soil than for any other reason. The best pH for alfalfa is from 6.5 to 6.8; for other legumes the pH should be from 6.2 to 6.5.

The fertilizer recommendations for seedings that are made with a small-grain companion crop are given in the following table:

2. Prepare the right kind of seedbed.

Uniform, shallow coverage is essential for a good stand of grasses and legumes. This means a finer and firmer seedbed than is necessary for grain crops, since it is impossible to get uniform shallow seeding when the surface is rough and cloddy.

3. Inoculate the seed.

Legumes cannot take their nitrogen from the air unless the nitrogen-fixing bacteria are present on their roots. If you are seeding a legume species for the first time, be sure to inoculate the seed. Buy fresh, dated inoculant, specifically for your type

Oats or Barley seeded to a forage mixture

Situation	Recommended Ratio N-P_2O_5-K_2O	Nutrients lbs. per acre N-P_2O_5-K_2O	Suggested analysis and application Amount per acre	Special Suggestions	
Not likely to lodge: High-potash soils	1-2-1	35-70-35	440 lbs. 8-16-8	Mohawk, Clinton, Craig oats or Moore barley	Top-dress seedings in following years
		20-40-20	250 lbs. 8-16-8	For weak-strawed varieties	
Medium - to low-potash soils	1-2-2	35-70-70	440 lbs. 8-16-16	Mohawk, Clinton, Craig oats or Moore barley	
		20-40-40	250 lbs. 8-16-16	For weak-strawed varieties	
Where grain may lodge: High-potash soils	0-1-0	0-80-0	400 lbs. 20% or 175 lbs. 45% superphosphate	While lodging is still a problem on some heavily manured fields (especially valley farms), farmers are generally urged to use nitrogen on the stiff-strawed varieties.	
Medium - to low-potash soils	0-1-1	0-60-60	300 lbs. 0-20-20	Top-dress seedings in later years.	

1955
Seedings for Hay, Silage, and Pasture

Recommendations of the Departments of Agronomy and Plant Breeding

Both sides received the same seed and fertilizer. The left side also received two tons of limestone.

Choose the seeding:

1. That is suited to the way you plan to use it.
2. That contains the legume that has the desired length of life.
3. That is adapted to the drainage conditions of your soil. Drainage types are shown in the diagram at the right and are described below:

Good: Plow layer dry enough to work in early spring. Subsoil seldom too wet during growing season. No limit to root penetration.

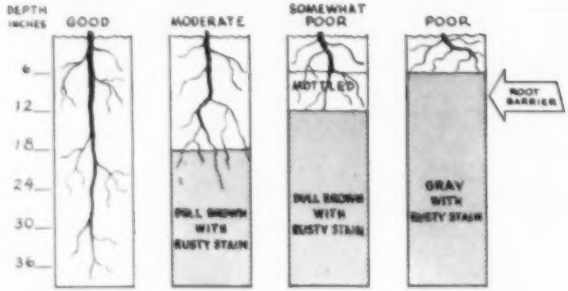
Moderate: About 20 inches of well-drained soil. Spring work delayed only slightly.

Somewhat poor: Plow layer and upper subsoil to 12 inches dry, but lower subsoil wet until late spring. Spring work delayed.

Poor: Too wet for regular crop rotation. Mottled layer and sometimes hardpan at plow depth.

Root Barrier: The air is cut off for long periods by excess water. Poorly drained soils often have hardpan close to the surface. Some legumes thrive under these conditions; others, such as alfalfa, do not.

SOIL DRAINAGE TYPE



Choose the legume that fits your soil drainage type.

Soil Drainage	Legumes and	Pounds per	Notes on Seedings—Varieties, Management, Adaptation

of legume. Apply the inoculant to the seed immediately before sowing. It would cost you $35.00 to buy the nitrogen supplied by an acre of well-nodulated alfalfa.

4. Select the best mixture.

Of the many grasses and legumes that can be grown in New York, usually there is one simple mixture that best suits your requirements. Choose the mixture from those listed in the large table, taking into consideration your drainage conditions, the intended usage of the forage, and the length of stand desired.

5. Plant recommended varieties.

When possible, buy certified seed. Except for new varieties where the seed supply is still inadequate, the difference in price is usually small. The following varieties are recommended by Cornell's Department of Plant Breeding:

Alfalfa:

Ranger — wilt resistant, long-lived, the most widely used alfalfa in New York.

Narragansett — top variety in stand establishment, yield, and winter hardiness. Kills out if wilt is present in third harvest year. Place your order early for this variety.

Ladino Clover:

Insist on certified seed. Commercial seed may be a mixture of Ladino with common white clover.

Red Clover:

Commercial seed from Northeastern States is recommended. *Pennscott* is a new superior variety, but seed supplies are very short. *Kenland* is recommended for the more favorable areas.

Birdsfoot Trefoil:

Empire is first choice for long-term pasture. Empire can extend the haying season since it blooms at least two weeks later than alfalfa, red clover, or the Early Commercial or European Birdsfoot Trefoil.

European or Early Commercial Birdsfoot Trefoil establishes quickly and recovers quickly after cutting or grazing. It is well suited to hay, silage, and rotation pasture. It should replace red clover in many fields that are not suited to alfalfa.

Smooth Bromegrass:

Lincoln and *Achenbach* are "southern" varieties that give highest yields and most disease resistance in New York.

Manchar is lower yielding than Lincoln or Achenbach but is preferred to commercial seed. Commercial seed from northern sources is not recommended.

Orchardgrass:

Use commercial seed.

Timothy:

Climax is a late-blooming variety, but seed supplies are limited. Commercial is suitable if hay is cut early. Complete information on varieties is given in Cornell Extension Bulletin 858, *Improved Field Crops Varieties.*

6. Plant the seed; don't bury it.

The tiny seeds that are typical of forage crops are not able to send sprouts very far through the soil. One-fourth inch of coverage results in best stands; three-fourths inch is the deepest that any of the seeds should go.

Poultry Pasture	Ladino Clover Wild White Clover Timothy Kentucky Bluegrass	1 1 5 5	Wild white clover usually volunteers if plants were present before plowing.
Market Hay	Alfalfa	10	Use only on fertile, well-drained soils with adequate lime level. Certified Narragansett is first choice for stands up to 3 years. Ranger is preferred for 3- to 5-year stands if bacterial wilt is present.
Cover Crop or Late Fall and Early Spring Pasture	Rye	2 to 3 bushels	Sow after August 1 on moderate to well-drained soil for late fall and early spring pasture. Can be sown up to mid-October as cover crop. Balbo makes rapid fall and spring growth. It is the most dependable seed.
	Domestic Ryegrass	15	Sow at last cultivation in row crops. In a wet fall ryegrass may help to support equipment such as a corn picker. If sown early, provides fall pasture as well as spring pasture and green manure. Less winter-hardy than rye. Where winter hardiness is desired, purchase more expensive perennial ryegrass.
Summer Pasture or Silage	Sudan Grass	30	A suitable companion crop for hay and pasture seedings if grazed carefully. Piper first choice or California 23 or Wheeler.
Emergency Hay or Silage	Japanese Millet	16	For poorly drained soils or high elevations; Sudan preferred on soils of good to moderate drainage. Not ready for hay until September when weather is often poor for curing.
Diversion Ditches	Birdsfoot trefoil Timothy	7 5	For areas such as channels and backslopes which are difficult to seed, double the rate of seeding. After July 1 plant rye, mow when 15 to 18 inches tall; seed birdsfoot and timothy the following spring.
Outlets and Sod Waterways	Redtop Red Fescue Birdsfoot trefoil	5 5 5	1955 ACP standards call for 10 pounds of each ingredient and specify Empire birdsfoot trefoil. If area cannot be mowed (near gully bank), use 30 pounds of tall fescue and 7 pounds of birdsfoot trefoil.
For Swampy Fields	Reed Canary Grass	8	Use for long-term stands on land too wet or too often flooded to grow other recommended hay and pasture crops.

• Use 25 per cent more seed than recommended if seedbed is poorly prepared. To convert pounds of seed to quarts: **Legumes,** 2 pounds to a quart. **Timothy,** 1½ pounds to a quart. **Orchard and bromegrass,** ½ pound to a quart. **Sudan and Japanese millet,** 1 pound to a quart. **Kentucky bluegrass** and **Redtop,** weight varies.

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	Alfalfa Smooth Brome-	8 8	

GOOD TO MODERATE	Alfalfa Smooth Bromegrass *or* Timothy	8 8 6	Certified Narragansett is first choice for stands up to 3 years. Use Certified Ranger for stands to be down 3 or more years and where wilt kills alfalfa. Smooth bromegrass is preferred to timothy for stands left down 3 or more years.
	Alfalfa Ladino Clover Smooth Bromegrass *or* Timothy	8 1 8 6	Use the mixture with ladino where aftermath grazing is important.
MODERATE TO SOMEWHAT POOR	Medium Red Clover Alfalfa Ladino Clover Timothy *or* Smooth Bromegrass	4 4 1 6 8	This is the soil situation where alfalfa acreage can be expanded most. Enough lime and fertilizer and the proper variety may produce alfalfa where it has failed before. On the more favorable alfalfa sites increase alfalfa to 6 pounds and cut red clover to 2 pounds. Clover competition has reduced the alfalfa stand in many fields. Smooth bromegrass is preferred to timothy for stands to be down 3 years or more.
ROTATED PASTURE OR SILAGE—From 2 to 5 Years			
GOOD TO SOMEWHAT POOR	Ladino Clover Alfalfa Orchardgrass *or* Smooth Bromegrass	1 3 to 6 6 8	A high-yielding mixture for rotated pasture and silage. Use certified Narragansett alfalfa for high yield in the first 2 to 3 years. Seed 6 pounds of alfalfa on soils with good drainage, 3 pounds with moderate drainage, and no alfalfa with only fair drainage. Cut or graze early to retain the palatability of orchardgrass and to maintain ladino. Bromegrass is easier to manage than orchardgrass but less productive in mid-summer.
HAY, SILAGE, AND ROTATED OR PERMANENT PASTURE—3 Years or More—Birdsfoot Trefoil Mixtures			
POOR TO GOOD	Empire Birdsfoot Trefoil Timothy *or* Smooth Bromegrass	5 to 8 5 8	Certified Empire has proven long life and will stand either rotation or continuous grazing. It is first choice for long-term stands on areas difficult to plow. It cuts high-quality hay from 10 to 20 days later than red clover or the European type. 5 pounds of seed is enough on a good seedbed and where the seed is broadcast after drilling or dropped *behind* the shoes. If seed is dropped *ahead* of the drill shoes, 8 pounds may be needed.
	European Birdsfoot Trefoil Timothy *or* Smooth Bromegrass	5 to 8 5 8	Early commercial: Better than red or alsike clover in meadows to be left down 3 or more years on moderate to poorly-drained soils. Ready to cut as early as red clover. Well suited for rotational grazing. Hay yield higher than Empire. It establishes quicker and recovers quicker after cutting. See note under Empire on rate of seeding.
HAY, SILAGE, OR PASTURE—Short-Term Clover Mixture			
POOR TO SOMEWHAT POOR	Medium Red Clover Ladino Clover Timothy (Alsike Clover) (Redtop)	6 1 6 (2) (2)	Red and alsike clover are not recommended as the only legumes in seedings to be down more than 2 years. Use birdsfoot trefoil mixture for 3 or more years. Ladino clover is included for more aftermath grazing and longer life. For poorly drained soils, substitute 2 pounds of alsike for 2 pounds of red clover, reduce timothy to 4 pounds and add 2 pounds of redtop. If left down 3 years, apply nitrogen fertilizer or manure to increase grass yield.
SPECIAL PURPOSE SEEDINGS			

7. Control the competition.

Companion crops compete for water, nutrients, and light. If you make a new seeding with spring grain, lower the seeding rate of the grain to 1½ to 2 bushels per acre. The earlier you remove the companion crop, the better it is for the new seeding. Grazing the companion crop or cutting it for hay favors the seeding.

8. Keep weeds in check.

If you seed with a grain crop, you can usually use chemical sprays to kill the annual weeds without harm to the grass or legume seedings. Refer to Cornell Extension Bulletin 821, *Weed Control Recommendations for 1955.* If you make the seeding without a companion crop, spray the weeds when they are still in the seedling stage with a dinitro spray. Early clipping is also a satisfactory weed-control measure. If you delay clipping until a heavy weed growth is made, remove the clippings from the field.

A New Look at Alfalfa

Census figures show that only 1 acre in 10 in New York meadows is alfalfa. Poor drainage limits the acres of alfalfa, but certainly does not place the limit at 1 acre in 10. Recent research shows clearly that poor drainage is being blamed on many farms when the real troubles are acid soils, lack of fertility, competition from red clover, mismanagement, insects and the need for a better variety.

The seed, lime, fertilizer and know-how are available to double the acres of alfalfa as the dominant legume and to add still more acres of alfalfa in mixture with other legumes.

Acid soils must be limed. Even the present acreage of alfalfa cannot be maintained unless the downward trend in tons of limestone which has occurred in the past two years is reversed.

Narragansett alfalfa brings new farms into the alfalfa picture. Research and farm observations show that the extra seedling vigor of Narragansett get it established and through the winter on soils that are marginal for the old varieties. Ranger alfalfa extends the life of alfalfa stands where wilt is present.

Competition from red clover has knocked out many stands of alfalfa. Red clover gets off to a "running start" the first year and the alfalfa never fully recovers. Red clover increases the hay yield in the first year, but causes a thinner stand of alfalfa for all the later years. Farmers are urged to leave red clover out of the mixture on good alfalfa soils and to use only a small amount on marginal alfalfa soils at least on a trial basis.

Insects must be controlled. Many farmers who have excellent stands of alfalfa are losing 10 to 20 per cent of the first crop to spittlebugs and 20 to 50 per cent of the second crop to leafhoppers. Ask your county agricultural agent for recommendations on how to control these insects.

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